

PATENT

Serial No. 09/670,129

Amendment in Reply to Final Office Action of April 26, 2004

IN THE CLAIMS

Please cancel claims 1-2, 5-6 and 11-12 without prejudice, and amend claims 10 and 13 as follows:

Claims 1-9 (Cancelled)

1 10. (Currently Amended) A method of determining the integrity
2 of a distributed information processing system including a
3 plurality of networked devices, each device including a finite
4 machine (FSM), the method comprising:

5 performing a primary task in each of the plurality of
6 networked devices, the primary task having a computational
7 requirement that varies over time;

8 performing a secondary task in each of the plurality of the
9 networked devices, wherein performing the secondary task in a first
10 one of the plurality of the networked devices includes generation,
11 per time step, a respective numerical value that depends on a
12 corresponding numerical value in each of the others of the
13 plurality of networked devices at a previous time step;

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14 receiving, at a control server, update information regarding
15 the stat of each of the plurality of networked devices;
16 simulating, in the control server, the secondary task of each
17 of the plurality of the networked devices, wherein simulating the
18 secondary task in the control server includes generating, per time
19 step, numerical values for each of the simulated tasks, based at
20 least upon the receive update information;
21 receiving, at the control server, the numerical values
22 generated by the plurality of the networked devices; and
23 determining by the control server whether ~~there is a mismatch~~
24 ~~between the received numerical values and are equal to the~~
25 ~~simulated values; and~~
26 generating an alert if it is determined that received
27 numerical values are not equal to the simulated values;
28 wherein generating the numerical value, per time step, in each
29 of the networked devices, further depends on a history of previous
30 numerical values of the device performing the secondary task, the
31 history has a length, and the length is dynamically modified in
32 inverse relation to the computations requirements of the primary
33 task.

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Claims 11-12 (Cancelled)

1 13. (Currently Amended) The method of Claim ~~12~~ 10, wherein
2 generating the numerical value further depends on an internal state
3 of the device performing the secondary task.

1 14. (Previously Presented) The method of Claim 13, wherein the
2 internal state includes a memory content, and an I/O buffer content
3 of the device performing the secondary task.

1 15. (Previously Presented) The method of Claim 14, wherein the
2 secondary task is chosen such that the performance of the secondary
3 tasks by networked devices results in the behaviour of a dynamic
4 non-periodic stochastic process.

1 16. (Previously Presented) The method of Claim 15, wherein the
2 control server is geographically remote from the networked devices.